

Iowans & Stroke Risk Factors

2009 Behavioral Risk Surveillance System (BRFSS) Data, Iowa vs. U.S.

Risk Factors	Iowa	U.S. (median)
High blood pressure	28.0%	28.7%
High total blood cholesterol	38.4%	37.5%
Diabetes	7.6%	8.3%
Current smoker	17.2%	17.9%
Obese	28.5%	26.9%
No exercise in the past 30 days	24.2%	23.8%
Eats fruits and vegetables at least 5 times/day	18.5%	23.4%

Note:
High blood pressure: Adults who report having been told by their physician that they have high blood pressure.
High total blood cholesterol: Adults who report having had their blood cholesterol checked and being told it was high.
Diabetes: Adults who have been told by a doctor that they have diabetes.
Current smoker: Adults who report that they are current smokers.
Obesity: Adults reporting a BMI greater than or equal to 30.0.
Exercise: Adults reporting that they did not participate in any physical activities during the past month.
Fruits and vegetables: Adults reporting that they consumed fruits and vegetables at least five times per day.

The following risk factors reported in 2009 placed Iowans at risk for stroke⁶:

High blood pressure

- Also known as hypertension, high blood pressure increases the risk of developing all stroke types.
- High blood pressure is on the rise in Iowa – it affected 28% of the population.

High Blood Cholesterol

- About 38.4% of Iowans had high blood cholesterol, placing them at an increased risk for developing heart disease and stroke.

Diabetes

- 7.6% of all Iowans were affected by diabetes – placing them at a 6-fold increased risk for developing ischemic stroke.

Smoking

- Smoking doubles the risk for ischemic stroke.
- Approximately 17.2% Iowans were smokers.

Obesity

- 28.5 % of Iowans reported being obese, which was 37% higher than the result in 2000.

Lack of Exercise/Physical Activity

- 24.2% of Iowans reported not getting any physical activity or exercise in the past 30 days, 10% higher than responses in 2007.

Fruit and Veggie Consumption

- 18.5% of Iowans reported getting their recommended servings of fruit and veggies each day.
- 23.5% of women reported consuming the recommended fruits and vegetables five times each day compared to 13.3% of men.

Sources:

- Vital Statistics, Iowa Department of Public Health, 2009. Includes ICD-10 I60-I69, G45.
- Centers for Disease Control and Prevention, 2003-2007 combined, <http://wonder.cdc.gov/wonder>. The rates were all age-adjusted unless indicated differently.
- Id.
- Iowa Inpatient Discharge data from Iowa Hospital Association. Includes ICD-9 codes 430-438 and were based on first-listed diagnosis.
- Agency for Healthcare Research and Quality (AHRQ), based on data collected by the Iowa Hospital Association. Total hospital charges were converted to costs using cost-to-charge ratios based on hospital accounting reports from the Centers for Medicare and Medicaid Services (CMS).
- Percentages are in crude rate in order to compare to national median percentage.



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Stroke in Iowa, 2009

Stroke Mortality



MORTALITY TRENDS

Since 2000, the stroke death rate in Iowa has decreased 30%.

HOSPITALIZATIONS

Since 2000, the stroke hospitalization rate has decreased by 15%.

Men had a 30% higher stroke hospitalization rate than women.

COSTS

The average inpatient cost for stroke in 2008 was, \$9,282, which is an 11% increase from 2007.

Total inpatient hospital costs are estimated at \$78.2 million.

Public funding, including Medicare and Medicaid, has paid over \$59 million (76% of the total).

IOWANS AT RISK

Out of the seven risk factors for stroke, five of them have increased in Iowa from 2000-2009, with obesity having the highest rate increase.

The smoking rate was the only risk factor to show a steady decline over the past ten years.

Did you know?

Stroke is the 4th leading cause of death for all Iowans.

- In 2009, stroke caused 1,627¹ deaths among Iowans – that's one stroke death every five hours and 6% of all deaths in the state.
- Stroke is the 3rd leading cause of death for women in Iowa.

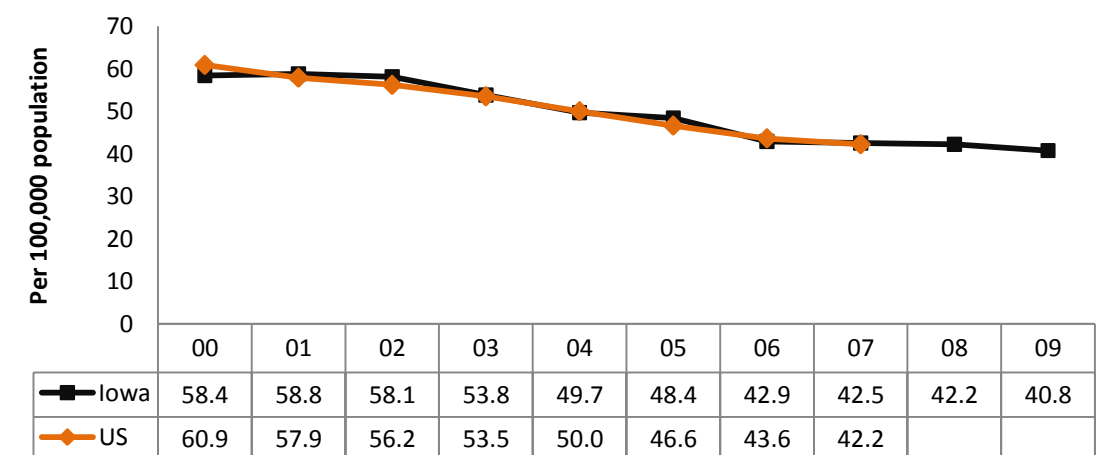
Racial, geographic and gender disparities in stroke exist in Iowa.

- African-American men have a 66% higher stroke death rate and African-American women have a 39% higher death rate than their Caucasian Iowan counterparts.
- Sioux County had the lowest stroke death rate (23/100,000) while Jefferson County had the highest stroke death rate (80/100,000)².
- 14% of men vs. 6% of women who died from stroke were younger than age 65.

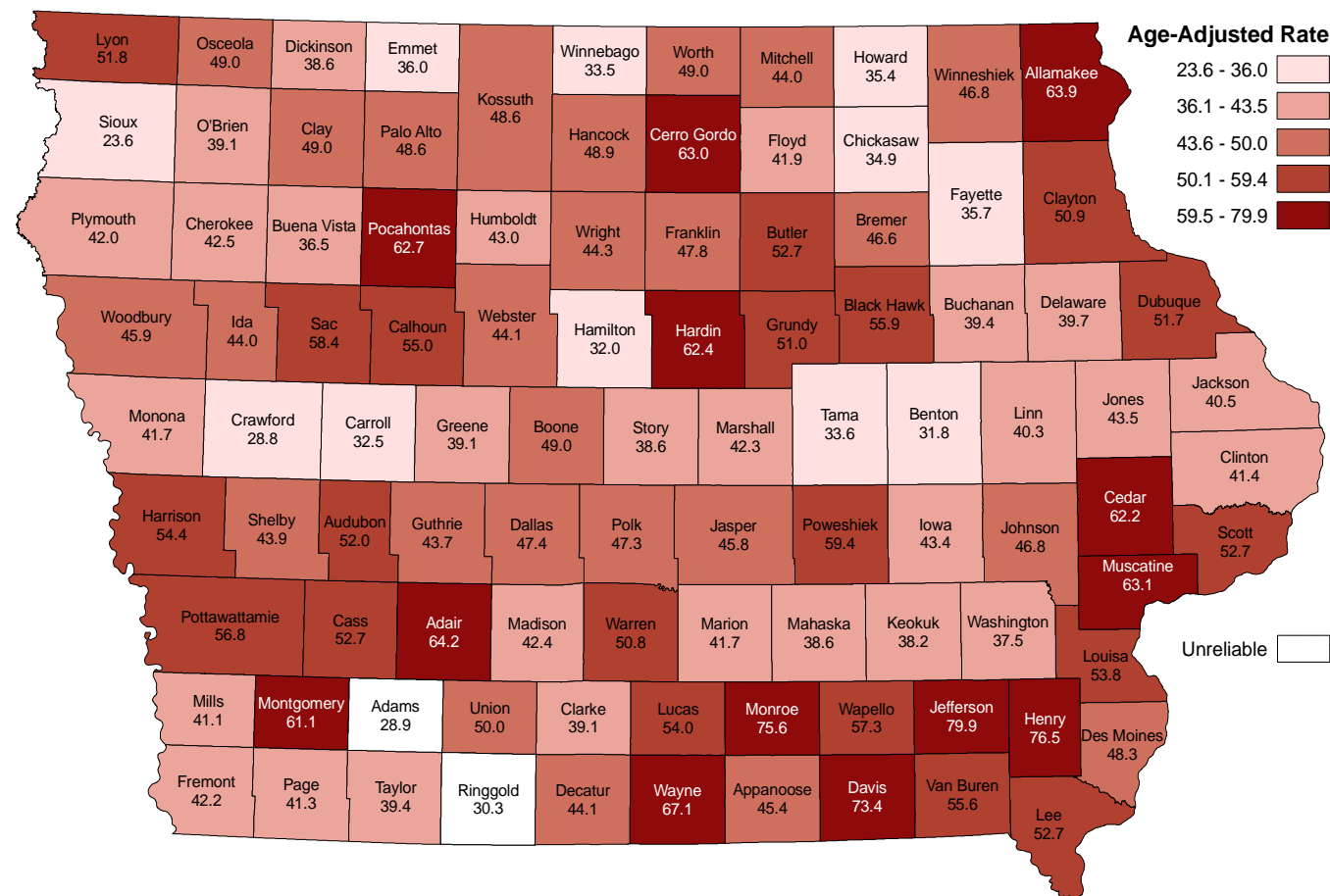
The stroke death rate in Iowa is decreasing.

- Since 2000, the stroke death rate has decreased 30% (from 58.4/100,000 in 2000 to 40.8/100,000 in 2009).
- Iowa stroke death rate has been close to the national average since 2003; and achieved the national Healthy People 2010 goal (48/100,000) early in 2006 (43/100,000).
- Ischemic stroke had the highest rate decrease (40%) from 1999 to 2007, while hemorrhagic strokes had the lowest rate decrease (8%)³.

Age-adjusted Stroke Mortality Rate, Iowa vs. US



Stroke Mortality Rate by County, 2003-2007



Between 2003 and 2007, mortality rates in 43 Iowa counties were higher than the state's average, 43 per 100,000 (combined data from 2003-2007).

Stroke Hospitalizations

Stroke hospitalizations are slightly decreasing in Iowa.

- In 2009, Iowa hospitals reported over 8,140⁴ stroke hospitalizations.
- Men had 30% higher stroke hospitalization rate (25.8/10,000) than women (19.8/10,000).
- Of these hospitalizations, 74% were for Iowans over the age of 65.
- During 2000-2009, on average, there was 2% annual decrease in the stroke hospitalization rate.

Most hospitalizations were for ischemic stroke (65%).

- 15% were transient ischemic attacks (TIA).
- 7% were intercerebral hemorrhages, 3% were subarachnoid hemorrhages; and
- 10% were unclassified.
- Of patients hospitalized for ischemic stroke, 55% were discharged to home, 25% to long-term care, 14% to rehabilitation and 3.6% died at the hospital.

In-hospital deaths were highest for those with intercerebral hemorrhages.

- 27% of patients hospitalized with intercerebral hemorrhage died at the hospital.

Subarachnoid hemorrhages are on the rise.

- The number of subarachnoid hemorrhages was the only type of stroke that increased in the last three years (12%).

The Cost of Stroke Hospitalizations

- While hospitalization rates were decreasing, the average inpatient cost increased from \$8,340 in 2007 to \$9,282 in 2008 (11% increase)⁵.
- Total inpatient hospital costs were estimated at \$78.2 million. Of this total, nearly \$59 million or 76% of the total was paid for by public funding including Medicare and Medicaid programs.

Iowa Stroke Inpatient Costs by Payer Source, 2008

